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| 09/846,375 | 05/02/2001 | Craig S. Rendahl | 114292.1561 | 3929 |

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[REDACTED] EXAMINER

LUU, THANH X

[REDACTED] ART UNIT [REDACTED] PAPER NUMBER

2878

DATE MAILED: 09/09/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | |
|------------------------------|-------------------------|------------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 09/846,375 | |
| | Examiner Thanh X Luu | Art Unit 2878 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 24 June 2002.

2a) This action is **FINAL**. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-4, 6-19 and 21-27 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-4, 6-19 and 21-27 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 1/10/02 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on 24 June 2002 is: a) approved b) disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

| | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s) _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>9</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This Office Action is in response to amendments and remarks filed June 24, 2002. Claims 1-4, 6-19 and 21-27 are currently pending.

Drawings

1. The proposed drawing correction and/or the proposed substitute sheets of drawings, filed on June 24, 2002 have been approved. A proper drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The correction to the drawings will not be held in abeyance.
2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: In Figures 2-6, reference sign 27 is not shown in the figures. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: Figures 4-6 show reference number 24, however the reference number is not described in the specification. Further, Figure 6 contains two reference numbers 24. A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 1-4, 6-15, 19 and 21-27 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding claims 1-4, 6-15, 19 and 21-27, it appears that Applicant has failed to describe an embodiment in which the radiation sources and reflectors are positioned substantially in the same plane of the vehicle path. Applicant defines (see page 1 of specification) a vehicle path as a roadway. Nowhere does Applicant describe or show the radiation sources and reflectors being substantially in the same plane as the roadway. That is, to be in substantially the same plane as the roadway, a part of the radiation sources and reflectors would have to intersect the plane of the roadway.

In response, Applicant should cite to specific sections of the specification in which such an embodiment is supported. Otherwise, Examiner reminds Applicant that no new matter may be added.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claim 16, as understood, is rejected under 35 U.S.C. 102(b) as being anticipated by McConnell et al. (U.S. Patent 5,910,929).

Regarding claim 16, McConnell et al. disclose (see Figure 3 and column 4, lines 20-40) an apparatus and method for measuring a speed of a vehicle traveling on a vehicle path, comprising: a first radiation source or means (on beacon) that emits radiation arranged at a first side of the vehicle path; a first reflector (1) arranged on a second, opposite side of the vehicle path from the first radiation source that reflects radiation emitted from the first radiation source back towards the first side of the vehicle path; a first detector (on beacon; not shown, see column 4, lines 20-40) arranged at the first side of the vehicle path that receives the reflected radiation from the first reflector and detects a presence or absence of the reflected radiation; a second radiation source (on beacon) that emits radiation arranged at the first side of the vehicle path; a second reflector (2) arranged on the second, opposite side of the vehicle path from the second radiation source that reflects emitted radiation from the second radiation source back towards the first side of the vehicle path; a second detector (on beacon; not shown) arranged at the first side of the vehicle path that receives the reflected radiation from the second reflector and detects a presence or absence of the reflected radiation; and a controller (inherent) connected to the first and second detectors that calculates the speed of the vehicle in response the first and second detectors (see column 4, lines 20-40, "velocity estimate"). McConnell et al. also disclose (see Figure 4 and column 4,

lines 20-40) "the system has two emitter/detector pairs (not shown)" and the pairs supported on a bar unit or permanent installation on a side of the path. McConnell et al. further disclose the reflectors are retroreflective units and affixed into a permanent installation.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4, 6-11, 17-19, 24 and 26, as understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over McConnell et al.

Regarding claims 1-4, 8, 9, 19, 24 and 26, McConnell et al. disclose (see Figure 3 and column 4, lines 20-40) an apparatus and method for measuring a speed of a vehicle traveling on a vehicle path, comprising: a first radiation source or means (on beacon) that emits radiation arranged at a first side of the vehicle path; a first reflector (1) arranged on a second, opposite side of the vehicle path from the first radiation source that reflects radiation emitted from the first radiation source back towards the first side of the vehicle path; a first detector (on beacon; not shown, see column 4, lines 20-40) arranged at the first side of the vehicle path that receives the reflected radiation from the first reflector and detects a presence or absence of the reflected radiation; a second radiation source (on beacon) that emits radiation arranged at the first side of the vehicle path; a second reflector (2) arranged on the second, opposite side of the vehicle

path from the second radiation source that reflects emitted radiation from the second radiation source back towards the first side of the vehicle path; a second detector (on beacon; not shown) arranged at the first side of the vehicle path that receives the reflected radiation from the second reflector and detects a presence or absence of the reflected radiation; and a controller (inherent) connected to the first and second detectors that calculates the speed of the vehicle in response the first and second detectors (see column 4, lines 20-40, "velocity estimate"). McConnell et al. also disclose (see Figure 4 and column 4, lines 20-40) "the system has two emitter/detector pairs (not shown)" and the pairs supported on a bar unit or permanent installation on a side of the path. McConnell et al. further disclose the reflectors are retroreflective units and affixed into a permanent installation. McConnell et al. do not specifically disclose the emitters and the reflectors being in the same plane as the vehicle path. However, such a configuration is a simple matter of design choice and would require only routine skill in the art. As long as any part of the vehicle intersects the radiation being emitted, a speed can be calculated; it would have been obvious to a person of ordinary skill in the art at the time the invention was made to dispose the emitters and the reflectors on whichever plane as desired.

Regarding claims 6, 7, 10, 11, 17 and 18, McConnell et al. do not specifically disclose a second bar unit or a plurality of permanent installations having a pair of sender/detector units spaced at a desired interval from the first bar unit. However, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a second bar unit in the apparatus of McConnell et al. in order to

improve detection by measuring the speed of the vehicle at a different point along the vehicle path. Furthermore, the simple addition of another bar unit requires only routine skill in the art to configure. Also, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to connect the bar units in order to improve stability of the units. Similarly, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a plurality of pairs of first and second reflectors.

3. Claims 12-15, 21-23, 25 and 27, as understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over McConnell et al. in view of Johnson et al. (U.S. Patent 5,812,249).

Regarding claims 12, 13, 21 and 22, McConnell et al. disclose using an acoustic wave. McConnell et al. do not specifically disclose the radiation source being a laser beam source. Johnson et al. teach using modulated and unmodulated laser beams to measure speed in a similar manner. Further, since sound waves and laser beams are both forms of radiation, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a modulated laser beam source in the apparatus of McConnell et al. to improve the accuracy of detection.

Regarding claims 14 and 23, McConnell et al. and Johnson et al. do not specifically disclose the specific rate of modulation. However, the rate of modulation is a matter of design choice. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a rate of 20kHz-200kHz in the apparatus of McConnell et al. in view of Johnson et al. to reduce interference from

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ambient radiation and improve detection.

Regarding claims 15, 25 and 27, Johnson et al. further teach combining the speed sensor with a pollution sensor. McConnell et al. and Johnson et al. do not specifically disclose a tilt sensor and calculating a power. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide additional sensors and calculate additional values in the apparatus of McConnell et al. in view of Johnson et al. to consolidate sensors and to provide a more complete detection of the vehicle.

Response to Arguments

4. Applicant's arguments filed June 24, 2002 have been fully considered but they are not persuasive.

Regarding claim 16, Applicant has not included any language concerning the emitter and the reflector being in a same plane of the vehicle path, thus, the claim remains rejected over McConnell et al. as previously set forth.

5. Applicant's arguments with respect to claims 1-4, 6-15, 19 and 21-27 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh X. Luu whose telephone number is (703) 305-0539. The examiner can normally be reached on Monday-Friday from 6:30 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font, can be reached on (703) 308-4881. The fax phone number for the organization where the application or proceeding is assigned is (703) 308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

txl
August 29, 2002


Que T. Le
Primary Examiner